

Scopes of the Claims

1 1. A tape winding device for a wire material, characterized
2 by comprising a tape feed section composed of a hollow shaft
3 having a throughhole for passing a wire material therethrough,
4 a tape pad secure part secured to the hollow shaft for fixing
5 a tape pad on which a tape body is wound, and a first drive source
6 for driving rotatively the tape pad secure part; and
7 a tape winding section composed of a tape winding flyer
8 installed coaxially on the outside of the tape feed section in
9 a rotatable manner, a plurality of tension control rolls
10 installed on a flat surface of the tape winding flyer parallel
11 with the hollow shaft, and a second drive source connected to
12 the tape winding flyer; and that:
13 the tape body is supplied from the tape pad to the tape
14 winding flyer with a rotation by means of the first drive source,
15 a tension of the tape body supplied to the tape winding flyer
16 is made constant by means of the plurality of the tension control
17 rolls, and the tape body is wound on the wire material at the
18 tip of the hollow shaft by the rotation of the second drive source.

1 2. The tape winding device for a wire material as claimed
2 in claim 1, characterized by that the tape pad secure part and
3 the tape winding flyer are rotated in the same direction by the
4 first drive source and the second drive source to wind the tape
5 body on the wire material.

1 3. The tape winding device for a wire material as claimed
2 in claim 1, characterized by that the tape winding flyer is

3 composed of a disc-shaped base plate, the plurality of tension
4 control rolls are implanted vertically on the base plate and the
5 opposite ends of them are fitted to a guide board, and tape guide
6 rolls functioning to introduce the tape body to the tip of the
7 hollow shaft are provided on one or two or more of the plurality
8 of tension control rolls and the guide board.

1 4. The tape winding device for a wire material as claimed
2 in claim 3, characterized by that a shorting bar is secured to
3 the top surface of the guide board, and the tape guide rolls are
4 disposed on the shorting bar.

1 5. A system of manufacturing a tape-wound insulation core,
2 characterized by comprising a tape feed section composed of a
3 hollow shaft having a throughhole for passing a wire material
4 therethrough, a tape pad secure part secured to the hollow shaft
5 for fixing a tape pad on which a tape body is wound, and a first
6 drive source for driving rotatively the tape pad secure part;
7 and

8 a tape winding section composed of a tape winding flyer
9 installed coaxially on the outside of the tape feed section in
10 a rotatable manner, a plurality of tension control rolls
11 installed on a flat surface of the tape winding flyer parallel
12 with the hollow shaft, and a second drive source connected to
13 the tape winding flyer;

14 the tape body being supplied from the tape pad to the tape
15 winding flyer with a rotation by means of the first drive source,
16 a tension of the tape body supplied to the tape winding flyer
17 being made constant by means of the plurality of the tension

18 control rolls;
19 one or plural tape winding devices for a wire material in
20 which the tape body is wound on the wire material at the tip of
21 the hollow shaft by the rotation of the second drive source;
22 a feed unit for feeding the wire material;
23 a take-over device for taking over the tape-wound
24 insulation core prepared by winding the tape body on the wire
25 material by means of the tape winding device;
26 an outline shaping device for shaping the tape-wound
27 insulation core into a predetermined shape having a
28 predetermined outer diameter; and
29 a take-up device for taking up the shaped tape-wound
30 insulation core.

1 6. The system of manufacturing a tape-wound insulation
2 core as claimed in claim 5, characterized by that the outline
3 shaping device is disposed in between the take-over device and
4 the take-up device, and composed of shaping dies including a
5 complete circular hole having a predetermined inner diameter and
6 a predetermined inner diameter length.

1 7. A coaxial cable, characterized by that it is
2 manufactured by applying the system of manufacturing a
3 tape-wound insulation core as claimed in claim 5.